



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,316	11/03/2000	David R. Battiste	33938US	7718
7590 04/11/2005				
Michael G. Fletcher FLETCHER YODER P.O. BOX 692289 HOUSTON, TX 77269-2289		EXAMINER DANG, THUAN D		
		ART UNIT 1764 PAPER NUMBER		

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

20

Office Action Summary	Application No. 09/705,316	Applicant(s) BATTISTE, DAVID R.	
	Examiner Thuan D. Dang	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-21 and 30-37 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) ☐ Claim(s) ____ is/are allowed.
 6) ☒ Claim(s) 1-5, 7-21, 30-37 is/are rejected.
 7) ☐ Claim(s) ____ is/are objected to.
 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

M

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 7-11, 13-21, and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lashier et al (5,689,028) in view of Alsmeyer et al (5,638,172).

Art Unit: 1764

Lashier discloses a process of trimerization of ethylene to produce hexene in the presence of a catalyst and optionally added hydrogen (the abstract; col. 1, lines 55-62; col. 5, lines 25-27).

Lashier et al discloses that the conversion, selectivity and the produced polymer polymerization process must be monitored (col. 9, lines 24-28).

Lashier does not disclose using Raman spectrometry equipment to monitor these parameters of the process (see entire patent for details). However, Alsmeyer discloses that chemical processes such as polymerization can be monitored in-situ by Raman spectrometry (the abstract; col. 1, lines 44-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Lashier process by using the Raman spectrometry to measuring reactants and/or product of the Lasher trimerization of ethylene to decide the conversion, selectivity, and the amount of polymer of the process since Alsmeyer discloses that the Raman spectrometry has a lots of advantages for monitoring chemical processes (col. 1, lines 22-27; col. 2, lines 47-51; col. 3, lines 15-30 and 59-67).

All of the conversion, selectivity and the amount of polymer must be decided by measured amounts of components in the reaction. Once, measured parameters are not desired ones, one having ordinary skill in the art would adjust the process such as by changing the input and the output of the reactants, the catalyst and/or polymer product to/from the reactor.

The limitation of claim 5 can be found on column 7, lines 27-31.

Art Unit: 1764

Alsmeyer does not disclose the resolution of the Raman equipment. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Lashier process having been modified by the Alsmeyer teaching by using appropriate wave lengths provided that wave lengths can be used to monitor the process.

The limitation of claims 18 and 19 can be found on column 14, lines 17-20.

Claims 12 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lashier et al (5,689,028) in view of Alsmeyer et al (5,638,172) further in view of Tanaka et al (5,750,817).

Lashier discloses a process as discussed above.

Lashier does not disclose the process is performed in more than one reactor.

However, Tanaka operates an oligomerization of olefins such as ethylene in a series of reactors (col. 11, line 21 thru col. 12, line 47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Pinole process by operating the process in a series of

reactors as disclosed by Tanaka since it has been established that the transposition of process

steps or the splitting of one step into two, where the processes are substantially identical or

equivalent in terms of function, manner and result was held to be not patentably distinguish the

Art Unit: 1764

processes. *Ex Parte Rubin* 128 159 (PO BdPatApp 195).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Pinole process having been modified by Tanaka's teachings by monitoring the concentration of the effluent of each reactor and adjusting the process by appropriate parameter such as providing monomer to the effluent of the preceding reactors.

Response to Arguments

Applicant's arguments with respect to the present claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan D. Dang whose telephone number is 571-272-1445. The examiner can normally be reached on Mon-Thu.

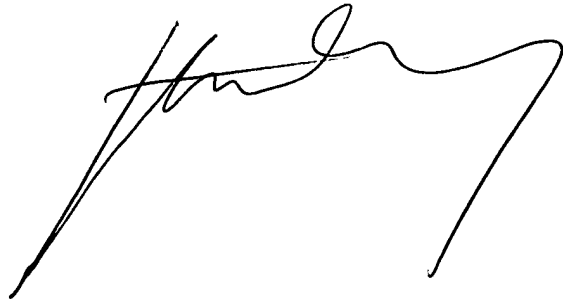
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1764

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thuan D. Dang
Primary Examiner
Art Unit 1764

09705316.20050406

A handwritten signature in black ink, appearing to read 'Thuan D. Dang', is written over the printed name and title.